

What is claimed is:

1. A method of limiting communication access between wireless LAN terminals of a wireless LAN, comprising the steps of:
 - allocating different subnetwork addresses to respective wireless LAN terminals;
 - 5 setting default gateways of the respective wireless LAN terminals as a single access limiter; and
 - returning a communication packet between the wireless LAN terminals from said access limiter which is set as said default gateways rather than a wireless LAN access point, for thereby providing an access
 - 10 limiting function to limit communication access between the wireless LAN terminals without modifying the existing wireless LAN access point.
2. A method according to claim 1, wherein said access limiter has two LAN interfaces connected respectively to a wired terminal and the wireless LAN access point, said wireless LAN terminals being connected to said wireless LAN access point, said access limiter having:
 - 5 an access limiting function for passing or dropping a received packet to thereby inhibit or permit communications between the terminals;
 - a band limiting function for buffering a received packet to process audio packets with priority over other packets;
 - a routing function for distributing packets selectively to said wired
 - 10 terminal and said wireless LAN access point depending on a destination of the packets;
 - a DHCP server for allocating IP addresses having different subnets

for the respective terminals in response to DHCP requests from said wired LAN terminals; and

15 an ARP server installed in an existing IP protocol stack.

3. A method according to claim 2, wherein when a first one of the wireless LAN terminals is turned on, said first wireless LAN terminal sends a DHCP request to the wireless LAN access point for automatically resolving its own IP address;

5 said wireless LAN access point, which operates as a simple bridge between a wireless LAN and a wired LAN, transfers the received DHCP request to the access limiter;

 said access limiter, which has a DHCP server function, returns a DHCP response to the DHCP request to said wireless LAN access point;

10 and

 said wireless LAN access point, which has received the DHCP response, converts the DHCP response from wired data to wireless data, sends the DHCP response to said first wireless LAN terminal to allow said first wireless LAN terminal to make IP communications according to IP
15 address information allocated from the DHCP server;

 wherein when a second one of the wireless LAN terminals is turned on, said second wireless LAN terminal sends a DHCP request to the wireless LAN access point for automatically resolving its own IP address;

 said wireless LAN access point, which operates as the simple bridge
20 between a wireless LAN and a wired LAN, transfers the received DHCP request to the access limiter;

 said access limiter, which has the DHCP server function, returns a

DHCP response to the DHCP request to said wireless LAN access point;
and

25 said wireless LAN access point, which has received the DHCP
response, converts the DHCP response from wired data to wireless data,
sends the DHCP response to said second wireless LAN terminal to allow
said second wireless LAN terminal to make IP communications according
to IP address information allocated from the DHCP server;

30 wherein said first wireless LAN terminal sends a packet destined for
said second wireless LAN terminal to said access limiter; and

 said access limiter transfers the received packet, which is destined
for said second wireless LAN terminal, to said second wireless LAN
terminal.

4. A method according to claim 3, wherein when said first
wireless LAN terminal is turned on, said first wireless LAN terminal sends a
DHCP request to the wireless LAN access point for automatically resolving
its own IP address;

5 since the DHCP request is a broadcast packet, said wireless LAN
access point transfers the DHCP request to said access limiter on a wired
LAN, and broadcasts the DHCP request to said second wireless LAN
terminal;

 said access limiter, which has received the DHCP request, sets its
10 own IP address to a predetermined value, and sends IP address
information as a response to said first wireless LAN terminal; and

 said second wireless LAN terminal, which has received the DHCP
request, drops the received packet as the DHCP server is not activated;

wherein when said second wireless LAN terminal is turned on, said
15 second wireless LAN terminal sends a DHCP request to the wireless LAN
access point for automatically resolving its own IP address;

since the DHCP request is a broadcast packet, said wireless LAN
access point transfers the DHCP request to said access limiter on the
wired LAN, and broadcasts the DHCP request to said first wireless LAN
20 terminal;

said access limiter, which has received the DHCP request, sets its
own IP address to a predetermined value, and sends IP address
information as a response to said second wireless LAN terminal; and

said first wireless LAN terminal, which has received the DHCP
25 request, drops the received packet as the DHCP server is not activated;

wherein when a packet is to be sent from said first wireless LAN
terminal to said second wireless LAN terminal,

since a subnet of said first wireless LAN terminal is different from a
subnet of said second wireless LAN terminal, before said first wireless LAN
30 terminal sends the packet to said access limiter set as said default
gateways, said first wireless LAN terminal sends an ARP request to
resolve a MAC address of said default gateways;

said wireless LAN access point, which has received said ARP
request, transfers the ARP request to said access limiter on the wired LAN
35 and said second wireless LAN terminal;

said access limiter which has a same address returns a response to
said ARP request, and said second wireless LAN terminal which has a
different address drops the packet;

since said first wireless LAN terminal has had the MAC address

40 resolved by the ARP request, said first wireless LAN terminal sends a packet destined for said second wireless LAN terminal to said access limiter; and

if said access limiter is to permit communications between the wireless LAN terminals, the access limiter returns the received packet and
45 sends the received packet to said second wireless LAN terminal.

5. A method according to claim 3, wherein when said first wireless LAN terminal is turned on, said first wireless LAN terminal sends a DHCP request to the wireless LAN access point for automatically resolving its own IP address;

5 since the DHCP request is a broadcast packet, said wireless LAN access point transfers the DHCP request to said access limiter on a wired LAN, and broadcasts the DHCP request to said second wireless LAN terminal;

said access limiter, which has received the DHCP request, sets its
10 own IP address to a predetermined value, and sends IP address information as a response to said first wireless LAN terminal; and

said second wireless LAN terminal, which has received the DHCP request, drops the received packet as the DHCP server is not activated;

wherein when said second wireless LAN terminal is turned on, said
15 second wireless LAN terminal sends a DHCP request to the wireless LAN access point for automatically resolving its own IP address;

since the DHCP request is a broadcast packet, said wireless LAN access point transfers the DHCP request to said access limiter on the wired LAN, and broadcasts the DHCP request to said first wireless LAN

20 terminal;

said access limiter, which has received the DHCP request, sets its own IP address to a predetermined value, and sends IP address information as a response to said second wireless LAN terminal; and

said first wireless LAN terminal, which has received the DHCP
25 request, drops the received packet as the DHCP server is not activated;

wherein when a packet is to be sent from said first wireless LAN terminal to said second wireless LAN terminal,

since a subnet of said first wireless LAN terminal is different from a subnet of said second wireless LAN terminal, before said first wireless LAN
30 terminal sends the packet to said access limiter set as said default gateways, said first wireless LAN terminal sends an ARP request to resolve a MAC address of said default gateways;

said wireless LAN access point, which has received said ARP request, transfers the ARP request to said access limiter on the wired LAN
35 and said second wireless LAN terminal;

said access limiter which has a same address returns a response to said ARP request, and said second wireless LAN terminal which has a different address drops the packet;

since said first wireless LAN terminal has had the MAC address
40 resolved by the ARP request, said first wireless LAN terminal sends a packet destined for said second wireless LAN terminal to said access limiter; and

if said access limiter is to inhibit communications between the wireless LAN terminals, the access limiter drops the received packet.

6. A method according to claim 3, wherein when said first wireless LAN terminal is turned on, said first wireless LAN terminal sends a DHCP request to the wireless LAN access point for automatically resolving its own IP address;

5 since the DHCP request is a broadcast packet, said wireless LAN access point transfers the DHCP request to said access limiter on a wired LAN, and broadcasts the DHCP request to said second wireless LAN terminal;

said access limiter, which has received the DHCP request, sets its
10 own IP address to a predetermined value, and sends IP address information as a response to said first wireless LAN terminal; and

said second wireless LAN terminal, which has received the DHCP request, drops the received packet as the DHCP server is not activated;

wherein when said second wireless LAN terminal is turned on, said
15 second wireless LAN terminal sends a DHCP request to the wireless LAN access point for automatically resolving its own IP address;

since the DHCP request is a broadcast packet, said wireless LAN access point transfers the DHCP request to said access limiter on the wired LAN, and broadcasts the DHCP request to said first wireless LAN
20 terminal;

said access limiter, which has received the DHCP request, sets its own IP address to a predetermined value, and sends IP address information as a response to said second wireless LAN terminal; and

said first wireless LAN terminal, which has received the DHCP
25 request, drops the received packet as the DHCP server is not activated;

wherein when a packet is to be sent from said first wireless LAN

terminal to said second wireless LAN terminal,

since a subnet of said first wireless LAN terminal is different from a subnet of said second wireless LAN terminal, before said first wireless LAN
30 terminal sends the packet to said access limiter set as said default gateways, said first wireless LAN terminal sends an ARP request to resolve a MAC address of said default gateways;

said wireless LAN access point, which has received said ARP request, transfers the ARP request to said access limiter on the wired LAN
35 and said second wireless LAN terminal;

said access limiter which has a same address returns a response to said ARP request, and said second wireless LAN terminal which has a different address drops the packet;

since said first wireless LAN terminal has had the MAC address
40 resolved by the ARP request, said first wireless LAN terminal sends a packet destined for said second wireless LAN terminal to said access limiter; and

if said access limiter is to buffer communications between the wireless LAN terminals, the access limiter performs priority control of the
45 received packet depending on a property thereof.